Desiltation of Major Irrigation Projects

2299. SHRI J. CHOKKA RAO: Will the Minister of WATER RESOURCES be pleased to state:

(a) whether most of the major irrigation projects in the country particularly those on river Godavari are silting at a faster rate than originally contemplated; and

(b) if so, the remedial measures being taken in this regard?

THE MINISTER OF WATER RESOURCES (SHRI VIDYACHARAN SHUKLA): (a) The data on silting in some major irrigation projects is given in the attached statement including projects within Godavari Basin. For the East flowing rivers of peninsular region including river Godavari, higher rates of siltation are taken as normal.

(b) Centrally Sponsored Schemes of Soil Conservation, afforestation, providing gully plugging, watershed management etc. are being undertaken in the Catchments of River Valley Projects to arrest soil erosion.

STATEMENT

Rate of Silting in Various Reservoirs in India

Sl. No.	*Name of Reservoir*	*Name of River*	*Storage capacity (Mm^3)*	*Catchment area (Km^2)*	*Year of impounding*	*Designed rate of sediment*
1	*2*	*3*	*4*	*5*	*6*	*7*
Andhra Pradesh						
1.	Sriramsagar	Godavari	3171.94	91751	1970	3.57
2.	Nizamsagar	Manjira	841.18	21694	1930	2.38
3.	Himayatsagar	Issa	107.79	1307.94	1927	N.A
4.	Ramappa Lake	Manair	82.48	183.89	1919	N.A.
5.	Lakhamvaram Lake	Lakhamvaram	60.42	286.06	1909	N.A.
6.	Cumbum Tank	Gundukamma	105.76	993.00	1956	N.A.
7.	Dindi	Dindi	73.83	3919.96	1943	N.A.
8.	Pakhal Lake	Muneru	95.83	266.77	1922	N.A.
9.	Shanigram tank	Siddipet	29.08	321.00	1891	N.A.

Sl. No.	Name of Reservoir	Name of River	Storage capacity (Mm^3)	Catchment area (Km^2)	Year of impounding	Designed rate of sediment
1	2	3	4	5	6	7
10.	Palair	Palair	56.56	1986.71	1928	N.A.
11.	Wyra	Wyra & Pangidi	24.66	709.66	1929	N.A.
12.	Manjira	Manjira	50.94	16770.25	1966	N.A.
13.	Kaddam	Kaddam	124.43	2656.25	1958	N.A.
14.	Pocharam	Aliyaru stream	16.85	673.40	1922	N.A.
Bihar						
15.	Danchet Hill	Damodar	1581.00	10878.00	1956	6.67
16.	Maithon	Barakee	1348.80	6294.00	1955	9.05
Gujarat						
17.	Ukai	Tapi	8510.00	62224.00	1972	1.49
18.	Kadana	Mahi	1543.00	25520.00	1977	1.30

Sl. No.	Name of Reservoir	Name of River	Storage capacity (Mm^3)	Catchment area (Km^2)	Year of impoun-ding	Designed rate of sediment
1	2	3	4	5	6	7
Himachal Pradesh						
19.	Pong	Beas	8579.00	12562	1974	—
Karnataka						
20.	Tunghbhadra	Tunghbhadra	3751.17	28180.00	1953	4.29
21.	Bhadar	Bhadar	289.22	2434.6	1963	7.6
Kerala						
22.	Malampuzha	Malampuzha	228.40	147.63	1955	N.A.
23.	Peechi	Manali	113.27	107.10	1957	N.A.
24.	Mangalam	Bharathapuzha	25.47	48.85	N.A.	N.A.
25.	Peruvannamuzhi	Kuttiadi	120.53	108.80	N.A.	N.A.
26.	Pooket Lake	N.A.	N.A.	N.A.	1969	N.A.

Sl. No.	Name of Reservoir	Name of River	Storage capacity (Mm^3)	Catchment area (Km^2)	Year of impounding	Designed rate of sediment
1	2	3	4	5	6	7
Madhya Pradesh						
27.	Gandhi Sagar	Chambal	7740.00	23025.00	1960	3.57
Maharashtra						
28.	Girna	Girna & Panzan	603.81	4279.33	1965	0.56
29.	Shivaji Sagar (Koyna)	Koyna	2987.83	891.00	1961	6.67
Orissa						
30.	Hirakud	Mahanadi	8105.00	83395.00	1957	2.89
Punjab						
31.	Bhakra	Sutlej	9869.00	56980.00	1958	4.29
Tamil Nadu						
32.	Lower Bhawani	Bhawani	938.782	4200.00	1953	N.A.

Sl. No.	Name of Reservoir	Name of River	Storage capacity (Mm^3)	Catchment area (Km^2)	Year of impoun-ding	Designed rate of sediment
1	2	3	4	5	6	7
33.	Vaigai	Vaigai	194.785	2253.3	1958	N.A.
34.	Mettur (Stanley)	Cauvery	2708.764	42200.00	1934	N.A.
35.	Upper Bhawani	Kundah	101.1476	33.59	1965	N.A.
36.	Sethnur	Penniar	234.828	0826.00	1957	N.A.
37.	Aliyar	Aliyar	109.40	195.00	1962	N.A.
38.	Emerald Avlanchi	Emerald Avlanchi	156.75	163.43	1961	N.A.
39.	Manimutharu	Kallmanimuthar & Malamanimuthar	159.734	161.62	1958	N.A.
40.	Krishnagiri	Ponnalarui	68.25	5430.00	1957	N.A.
41.	Kundah	Kundah	1.534	113.98	1960	N.A.
Uttar Pradesh						
42.	Matatila	Betwa	1132.70	20720.00	1956	1.33

Sl. No.	Name of Reservoir	Name of River	Storage capacity (Mm^3)	Catchment area (Km^2)	Year of impoun-ding	Designed rate of sediment
1	2	3	4	5	6	7
43.	Ramganga	Ramganga	2449.60	3134.00	1975	4.25
44.	Ichari	Tons	11.55	4913.00	1972	N.A.
45.	Dhukwan	Betwa	106.45	21340.00	1907	0.432
West Bengal						
46.	Mayurakshi	Mayurakshi	607.70	1860.00	1955	3.75

Sl. No.	Name of Reservoir	Name of River	Observed Rate of Silting in H a.m./100 Km²/year			Total No. of surveys	Total storage lost up to last survey (Mm³)	Loss in Capacity		Loss in	
			AT first survey	At last survey	Average period			Total up to last survey (Mm³)	Yearly average	Live storage	Dead storage
1	2	3	8	9	10	11	12	13	14	15	16
Andhra Pradesh											
1.	Sriramsagar	Godavari	N.A (1972)	6.186 (14 yrs.)	6.186 (14 yrs.)	4	794.57	25.05	1.79	22.7	31.0
2.	Nizamsagar	Manjira	N.A. (1961)	4.298	4.8911	4	477.48	56.76	1.26		
3.	Himayatsagar	Issa	4.467 (1976)	4.467 (1976)	4.467 (49 Yrs.)	1	28.63	26.56	0.54		
4.	Ramappa Lake	Manair	2.583 (1975)	2.583 (1975)	2.583 (56 yrs.)	1	2.66	3.22	0.06		
5.	Lakhamvram Lake	Lakhamvaram	10.65 (1975)	10.65 (1975)	10.65 (1975)	1	18.84	3.22	0.06		
6.	Cumbum Tank	Gundukamma	9.89 (1978)	9.89 (1978)	9.89 (22 Yrs)	1	21.608	2.04	0.09		
7.	Dindi	Dindi	0.1708 (1976)	0.1708 (1976)	0.1708 (33 Yrs.)	1	2.21	2.99	0.09		

Sl. No.	Name of Reservoir	Name of River	Observed Rate of Silting in H a.m./100 Km²/year			Total No. of surveys	Total storage lost up to last survey (Mm³)	Loss in Capacity		Loss in	
			AT first survey	At last survey	Average period			Total up to last survey (Mm³)	Yearly average	Live storage	Dead storage
1	2	3	8	9	10	11	12	13	14	15	16
8.	Pakhal Lake	Muneru	Nil (1975)	Nil (1975)	Nil (53 Yrs.)	1	Nil	Nil	Nil		
9.	Shanigram tank	Siddipet	1.134 (1972)	1.134 (1972)	1.134 (81 Yrs.)	1	2.95	10.14	0.12		
10.	Palair	Palair	0.146 (1977)	0.146 (1977)	0.146 (47 Yrs.)	1	1.21	2.15	0.04		
11.	Wyra	Wyura & Pangidi	2.87 (1977)	2.87 (1977)	2.87 (48 Yrs.)	1	9.78	40.00	0.83		
12.	Manjira	Manjira	1.015 (1977)	1.015 (1977)	1.015 (48 Yrs.)	1	18.74	36.77	3.34		
13.	Kaddam	Kaddam	9.16	9.16	9.16	1	46.251	37.10	1.95		
14.	Pocharam	Aliyaru stream	1.003 (1978)	1.003 (1978)	1.003 (56 Yrs.)	1	3.783	22.45	0.40		

Sl. No.	Name of Reservoir	Name of River	Observed Rate of Silting in H a.m./100 Km²/year			Total No. of surveys	Total storage lost up to last survey (Mm³)	Loss in Capacity		Loss in	
			AT first survey	At last survey	Average period			Total up to last survey (Mm³)	Yearly average	Live storage	Dead storage
1	2	3	8	9	10	11	12	13	14	15	16
Bihar											
15.	Danchet Hill	Damodar	12.13 (1962)	3.36 (1985)	5.877 (29 Yrs.)	5	185.40	11.73	0.404	23.0	36.8
16.	Maithon	Barakee	12.53 (1963)	9.056 (1979)	10.847 (24 Yrs.)	4	154.80	11.48	0.48	14.0	33.0
Gujarat											
17.	Ukai	Tapi	6.20 (1979)	8.903 (1984)	7.16 (12 Yrs.)	2	547.00	6.42	0.53		
18.	Kadana	Mahi	4.898 (1980-81)	2.612 (1964)	3.918 (7 Yrs.)	2	70.00	4.54	0.53		
Himachal Pradesh											
19.	Pong	Beas	22.71 (1980)	39.12 (1986)	27.88 (112 Yrs.)	4	419.75	4.89	0.41	3.35	13.88

Sl. No.	Name of Reservoir	Name of River	Observed Rate of Silting in H a.m./100 Km²/year			Total No. of surveys	Total storage lost up to last survey (Mm³)	Loss in Capacity		Loss in	
			AT first survey	At last survey	Average period			Total up to last survey (Mm³)	Yearly average	Live storage	Dead storage
1	2	3	8	9	10	11	12	13	14	15	16
Karnataka											
20.	Tunghbhadra	Tunghbhadra	17.90 (1963)	9.66 (1985)	6.48 (32 Yrs.)	5	584.43	15.57	0.49	14.84	100
21.	Bhadar	Bhadar	11.607 (1974)	11.507 (1974)	11.607 (1974)	1	31.09	13.00	1.18		
Kerala											
22.	Malampuzha	Malampuzha	25.401 (1977)	25.401 (1977)	25.401 (22 Yrs.)	1	8.25	3.61	0.16		
23.	Peechi	Manali	0.957 (1982)	0.957 (1982)	0.957 (25 Yrs.)	1	25.65	22.64	0.90		
24.	Mangalam	Bharat hapuzha	11.06 (N.A.)	11.06 (N.A.)	11.06 (29 Yrs.)	1	1.59	6.24	0.30		
25.	Peruvannamuzhi	Kuttiadi	18.4 (N.A.)	18.4 (N.A.)	18.4 (13 Yrs.)	1	26.0	21.6	1.66		

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			AT first survey	At last survey	Average period			Total up to last survey (Mm³)	Yearly average	Live storage	Dead storage
1	2	3	8	9	10	11	12	13	14	15	16
26.	Pooket	N.A.	N.A. (1984)	N.A. (1988)	N.A. (19 Yrs.)	2 (1969-88)	0.0131	N.A	N.A		
27.	Gandhi Sagar	Chambal	8.958 (1976)	8.58 (1976)	8.958 (16 Yrs.)	1	330.00	4.62	0.29	2.3	29.0
Maharashtra											
28.	Girma	Girna & Panzan	7.487 (1979)	7.7104 (1979)	7.487 (14 yrs.)	1	49.58	8.14	0.58	7.2	33.9
29.	Shivaji Sagar (Koyna)	Koyna	N.A. (1966)	7.7104 (1971)	7.7104 (10 Yrs.)	2	6.87	0.23	0.023		
Orissa											
30.	Hirakud	Mahanad	5.568 (1978)	0.702 (1984)	6.616 (27 Yrs.)	3	1491.31	16.31	1.61	14.5	31.1

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			AT first survey	At last survey	Average period			Total up to last survey (Mm³)	Yearly average	Live storage	Dead storage
1	2	3	8	9	10	11	12	13	14	15	16
Punjab											
31.	Bhakra	Sutlej	0.0281 (1958)	6.532 (1997)	5.658 (29 Yrs.)	20	935.056	9.48	0.32	5.78	20.77
Tamil Nadu											
32.	Lower Bhawani	Bhawani	18.98 (1964)	0.714 (1983)	3.00 (30 Yrs.)	4	37.752	4.05	0.135		
33.	Vaigai	Vaigai	4.091 (1976)	0.131 (1984)	3.977 927 Yrs.)	3	22.402	11.50	0.46		
34.	Mettur (Stanley)	Cauvery	2.394 (1978)	3.511 (1984)	2.52 (50 Yrs.)	2	533.332	19.00	0.39		
35.	Upper Bhawani	Kundah	0.546 (1985)	0.546 (1985)	0.546 (20 Yrs.)	1	3.6676	3.62	0.18		
36.	Sethnur	Pennlar	1.0703 (1977)	0.08036 (1982)	1.017 (25 Yrs.)	2	57.526	11.72	0.47		

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			AT first survey	At last survey	Average period			Total up to last survey (Mm³)	Yearly average	Live storage	Dead storage
1	2	3	8	9	10	11	12	13	14	15	16
37.	Aliyar	Aliyar	7.385 (1976)	11.405 (1981)	8.475 (20 Yrs.)	2	3.140	2.87	0.15		
38.	Emerald Avlanchi	Emerald Avlanchi	0.3381 (1981)	0.3391 (1981)	0.3361 (20 Yrs.)	1	11.05	7.05	0.1		
39.	Manimutharu	Kallmanimuthar & Malamanimuther	12.158 (1980)	12.158 (1980)	12.158 (22 Yrs.)	1	4.324	2.705	0.12		
40.	Krishnagiri	Ponnalarui	1.723 (1976)	1.723 (1976)	1.723 (19 Yrs.)	—	17.78	26.05	0.94		
41.	Kundah	Kundah	3.902 (1977)	2.31 (1982)	2.63 (20 Yrs.)	1	0.778	57.88	2.63		
Uttar Pradesh											
42.	Matalla	Betwa	11.82 (1962)	5.286 (1984)	6.005 (28 Yrs.)	7	348.40	30.76	1.10		

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			AT first survey	At last survey	Average period			Total up to last survey (Mm³)	Yearly average	Live storage	Dead storage
1	2	3	8	9	10	11	12	13	14	15	16
43.	Ramganga	Ramganga	N.A. (1978)	22.94 (1985)	22.94 (10 Yrs.)	2	79.06	3.23	0.29		
44.	Ichari	Tons	1.262 (1977)	1.669 (1978)	1.3298 (6 Yrs.)	2	3.92	3.92	0.65		
45.	Dhukwan	Betwa	0.425 (1937)	0.12 (1980)	0.304 (73 Yrs.)	5	47.42	44.55	0.61		
West Bengal											
46.	Mayurakshi	Mayurakshi	N.A. (1964-65)	16.826 (1970)	16.326 (15 Yrs.)	2	46.945	7.725	0.515		